

Claims

- [c1] 1. A portable renewable energy generator comprising:
a movable platform, said movable platform adapted for one of towing and transport to a remote area;
a redundant renewable energy source generator including a wind energy extraction device, said redundant renewable energy source generator configured for transport on said movable platform; and
a battery system operably connected to said redundant renewable energy source generator, said battery system configured to store electrical energy generated by said redundant renewable energy source generator.
- [c2] 2. The generator of claim 1, wherein said wind energy extraction device includes a wind turbine.
- [c3] 3. The generator of claim 2, wherein said redundant renewable energy source generator includes a solar energy extraction device.
- [c4] 4. The generator of claim 3, further comprising:
a pivot means disposed along one side of said movable platform;
a rack structure attached to said movable platform

through said pivot means;

a solar panel array as said solar energy extraction device including a first solar panel section operably mounted to said rack structure, said solar panel array including a plurality of individual solar cells arranged in at least one column and one row, said first solar panel section configured to rest on top of said movable platform and is pivotally coupled to said rack structure to pivot about a first edge defining said first solar panel section; and a mast having one end extending from said movable platform and said wind turbine extending from an opposite end of said one end of said mast.

[c5] 5. The generator of claim 1, wherein said solar panel array further comprises:

a second solar panel section mounted on said rack structure, said second solar panel section pivotally coupled through said rack structure to said first panel section at a second edge opposite said first edge of said first panel section, the width and length of said first and second solar panel sections being substantially the same so as to be folded upon one another in a transport position.

[c6] 6. The system of claim 5, wherein the rack structure upon which said first and second solar panel sections are mounted comprises frame members pivotally coupled

end to end, said first solar panel section including frame members having opposite ends pivotally engaged with said pivot means.

- [c7] 7.The generator of claim 6, wherein said rack structure includes having a plurality of adjustable braces extending perpendicularly to a longitudinal axis defining said movable platform across a top of said movable platform to at least one corresponding frame member for each of said first and second solar panel sections, each adjustable brace configured to support a corresponding solar panel section at desired angle to a horizontal.
- [c8] 8.The generator of claim 7, wherein, said pivot means is disposed along outboard frame sides defining said movable platform.
- [c9] 9.The generator of claim 8, wherein each adjustable brace of said plurality of adjustable braces extends from said pivot means extending from one of said outboard frame sides while said rack structure pivots about said pivot means extending from the other of said outboard frame sides.
- [c10] 10.The generator of claim 5, wherein said solar panel array is deployed at a selected angle to the horizontal by tilting said array about said pivot means, and wherein

said array is secured at the selected angle by means of a plurality of adjustable support braces that extend from said movable platform on one side of said movable platform opposite said pivot means to an upper part of said tilted array.

[c11] 11.The generator of claim 10, wherein said adjustable support braces each include an inner leg that is slidably insertable into an outer leg, said braces including locking means to fix the position of said inner leg relative to said outer leg, thereby establishing the length of the braces.

[c12] 12.The generator of claim 11 including a second group of adjustable support braces that extend from said movable platform on one side of said movable platform opposite said pivot means to a lower part of said tilted array.

[c13] 13.The generator of claim 1 including stabilizing jacks positioned at each corner defining said movable platform, each of said jacks mounted on an outwardly extendable support member and having an adjustable base to adjust to uneven terrain.

[c14] 14.The generator of claim 1, further comprising a backup generator configured to charge said battery sys-

tem during at least one of low charge and high power consumption.

[c15] 15.The generator of claim 14, wherein said backup generator is one of a carbon fueled generator and a fuel cell.

[c16] 16.The generator of claim 4, wherein said mast is extendable and configured to be collapsible for a transport position and is supportable by guy wires for a standing position.

[c17] 17.The generator of claim 4, wherein said battery system includes:

a battery bank, said battery bank in electrical communication with;

said wind turbine via a first controller,

said solar panel array via a second controller and a combiner, and

an inverter via a fuse, said inverter configured to allow use of AC and DC power.

[c18] 18.The generator of claim 17, wherein said battery system includes:

a heat dissipater configured to minimize overcharging said battery bank.

[c19] 19.The generator of claim 4, wherein said pivot means includes a plurality of spaced apart support members

extending from outboard frame sides defining said movable platform, each support member configured with a clevis type arrangement for attachment with said rack structure.

[c20] 20.The generator of claim 1, further comprising:
at least one compartment box attached to said movable platform to house components associated with said battery system and power generation for transport.

[c21] 21.A method for production of continuous power from a renewable energy source, the method comprising:
configuring a mobile platform for one of towing and transport to a remote area;
disposing a redundant renewable energy source generator including a wind energy extraction device on said movable platform; and
disposing a battery system on said mobile platform, said battery system operably connected to said redundant renewable energy source generator, said battery system configured to store electrical energy generated by said redundant renewable energy source generator.

[c22] 22.The method of claim 21, wherein said wind energy extraction device includes a wind turbine.

[c23] 23.The method of claim 22, wherein said redundant re-

newable energy source generator includes a solar energy extraction device.

[c24] 24. The method of claim 23, further comprising:
disposing a pivot means along one side of said mobile platform;
attaching a rack structure to said mobile platform through said pivot means;
mounting a solar panel array as said solar energy extraction device including a first solar panel section to said rack structure, said solar panel array including a plurality of individual solar cells arranged in at least one column and one row, said first solar panel section configured to rest on top of said mobile platform and is pivotally coupled to said rack structure to pivot about a first edge defining said first solar panel section;
disposing one end of a mast from said mobile platform;
disposing said wind turbine extending from an opposite end of said one end of said mast; and
mounting at least one compartment box to said mobile platform to house components associated with said battery system and power generation for transport.

[c25] 25. The method of claim 21 including:
positioning stabilizing jacks at each corner defining said mobile platform, each of said jacks mounted on an outwardly extendable support member and having an ad-

justable base to adjust to uneven terrain.

- [c26] 26.The method of claim 21, further comprising:
disposing a backup generator configured to charge said battery system during at least one of low charge and high power consumption on said mobile platform.
- [c27] 27.The method of claim 26, wherein said backup generator includes one of a carbon fueled generator and a fuel cell.
- [c28] 28.The method of claim 24, wherein said mast is extendable and is configured to be collapsible for a transport position and is supportable by guy wires for a standing position.
- [c29] 29.The method of claim 24, wherein said connecting a battery system to said solar panel array and said wind turbine includes:
electrically coupling said wind turbine via a first controller with a battery bank;
electrically coupling said solar panel array via a second controller and a combiner with said battery bank; and
electrically coupling an inverter via a fuse with said battery bank, said inverter configured to allow use of AC and DC power.
- [c30] 30.The method of claim 29, further comprising:

disposing a heat dissipater on said mobile platform, said heat dissipater configured to minimize overcharging said battery bank.

[c31] 31. The method of claim 29, further comprising:
disposing a backup generator on said mobile platform;
and
electrically coupling said backup generator with said inverter to charge said battery system.